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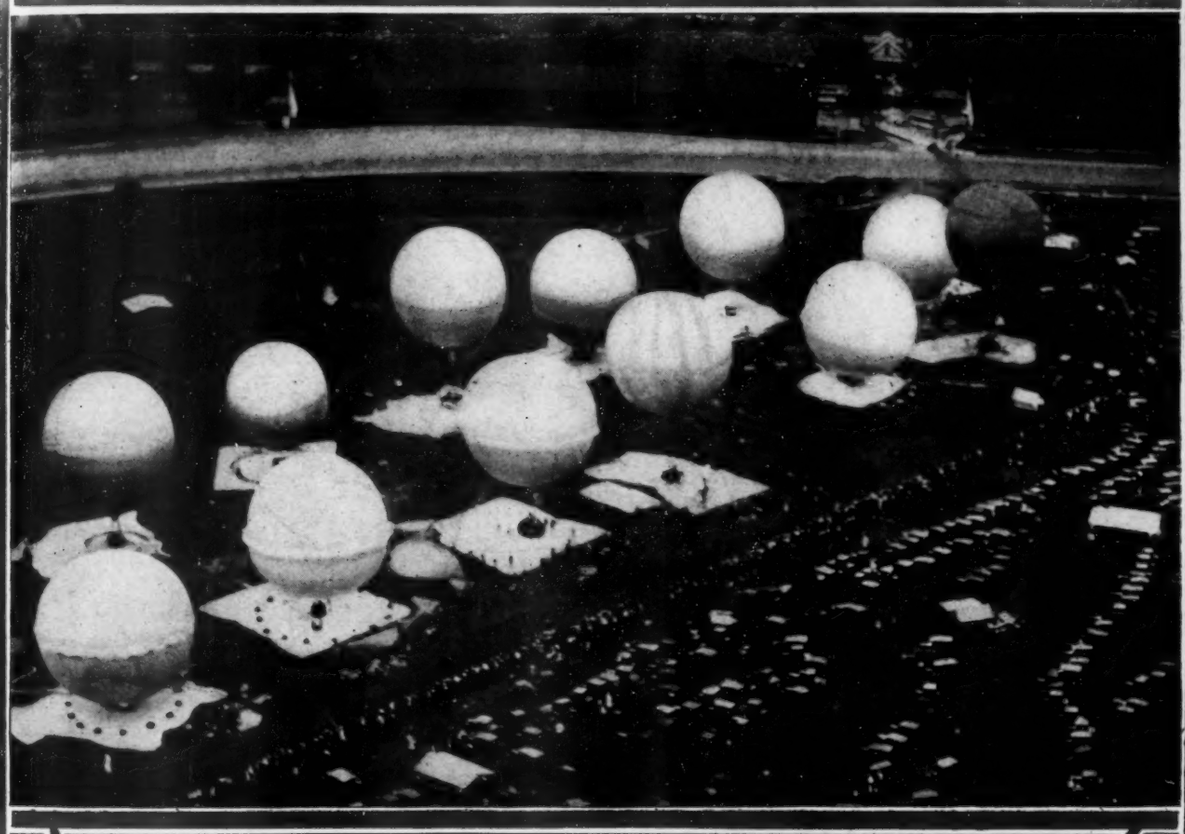

Start of the National Balloon Race, Indianapolis, July 4

VOLUME XV

NUMBER 5

SPECIAL FEATURES

ARMY BALLOON WINS NATIONAL RACE

AMERICAN ENTRANTS IN SCHNEIDER RACE

PREPARATORY WORK FOR ST. LOUIS AIR RACES

LIEUT. MAUGHAN'S SECOND DAWN TO DUSK FLIGHT

THE GARDNER, MOFFAT CO., INC.
HIGHLAND, N. Y.
225 FOURTH AVENUE, NEW YORK

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Flier vs. Non-Flier

IT would be difficult to express clearly the opinion that the average flier holds of the non-flier, and almost equally so the critical attitude of the so called "Kiwi" in respect to the pilot. Pilots are, as a rule, young men whose acquaintance with business has been slight, and who yet have had the extraordinary experience of becoming proficient in a new art early in their careers.

Perhaps it is not too much to say that the general public has looked upon the aviator as a daring or reckless person of the superman type. This may have had the effect of increasing the temperamental character of the young pilot. At any rate it is generally felt by non-fliers that the pilot, while he excels in his element, is not to be counted on as an organizer or business executive.

The pilot, on the other hand, feels that the man who doesn't fly is out of place organizing, managing, or controlling aviation. His opinion of the application of engineering to aircraft is often freely given. He prefers the "feel" of a ship to technical analysis, and looks upon the aircraft constructor as one who is only thinking of contracts and must be checked up at all times. As to the pilot's attitude toward those non-fliers who rank them in the services or who direct their operations in commercial aviation, he feels that he should be given the widest latitude of judgment and not be subjected to the immediate direction of a non-flier. Some pilots, overlooking many of the factors that enter into sound business enterprises feel that they can make a success of air transport on the strength of their sole flying experience, and many such enterprises have failed on this account.

The truth of the matter is that both the flier and non-flier in aviation must learn to respect each other and know that one is a necessary complement of the other. The business man of large interests is needed to put aviation on a sound financial basis; his general business experience is a valuable asset in management and operation. The pilot, on the other hand, is just as important a factor in the success of an aerial enterprise, for it is upon his skill, judgment and devotion that the safety of the passengers and cargo, and the smooth operation of the service depend.

Gas and Capital Ships

THE ease with which aircraft can lay a barrage of poison gas before an enemy fleet is recognized by Lieut. Paul W. Hains in an article in the July issue of the *Proceedings of the U. S. Naval Institute*. He pictures the officers and crew of a battleship in action as loaded down with gas masks, impregnated clothing, shoes, mittens, and with all this impedimenta doing the multifarious work required on a battleship in action.

It will be recalled that the Germans in 1917 mixed poison gas in a smoke screen and gave the English fleet a dangerous surprise. Even though the passage through the smoke screen took only a minute, the English crews were thrown into paroxysms of nausea and were incapacitated for action for some time after.

The battleship, during action, is not the pleasantest place in which to work even under the most favorable conditions of the sea in winter. The heroic type of a sailor, stripped to the waist and serving his gun will probably be superseded by one with the protective armor that modern warfare requires.

Even though the use of poison gas is limited by international agreements, these do not include all possible enemies nor are they regarded in military or naval circles as a certain preventative of the use of gas in extreme emergency. We hear comparatively little of gas attack and defense development, probably on account of the agreements entered into, but it will be much better to have a more practical form of protection than the agreement of diplomatic representatives. During the tests to be made this year by the Army Air Service with old battleships as objectives, no more important results can be obtained than ascertaining the possibilities of gas attack.

The Navy evidently thinks little of this menace, for the article mentioned concludes by expressing the hope that "if the article succeeds in starting just one or two wardroom arguments, our desire will have been realized; for the truth of the matter is that the service is too prone to minimize the danger from gas, or, what is worse, not to give the subject much thought at all."

Another Old Saying Gone

AS swift as a bird, has been for centuries an expression representing the ultimate in speed. Now comes Col. R. Meinertzhagen of England who has timed the speed of birds with aircraft measuring apparatus and we learn that bird flight is comparatively slow.

From various observations, the following speeds for some familiar birds were determined in miles per hour: Ravens, 32-39; starlings, 43-49; swallows, 37; swifts, over 68; pelicans, 51; geese, 55; ducks, 42-59, and lapwings, 40-45. In conclusion Colonel Meinertzhagen finds that birds have two speeds, one a normal rate used for everyday purposes and also for migration, and an accelerated speed, which is used for protection or pursuit and which in some cases nearly doubles the rate of normal speed.

So another aphorism is laid away between the pages of Father Time's memory book, and some new sage must give the world a new simile that will indicate that speed now means two hundred, three hundred and even more miles an hour.

The Second Dawn to Dusk Flight Attempt

Lieut. Russell L. Maughan, A.S., Flies from Mitchel Field To Rock Springs, Wyo.—1930 Miles in 15 hr.

The second attempt within ten days of Lieut. Russell L. Maughan, A.S. to span the continent between dawn and dusk, made July 19, ended in failure at Rock Springs, Wyo., when an oil leak compelled him to land there at 5:08 p. m., (mountain time). He had traversed more than two-thirds of the distance across the United States, a total of 1930 miles, and was rushing toward his goal at 170 m.p.h. after leaving three of his five stopping points behind in his race with the sun, when he was forced to descend.

A tiny stream of oil, spurting from an almost invisible aperture in the oil cooler of the Curtiss pursuit plane, necessitated the cancellation of the flight.

A similar leak had caused nearly an hour's delay at Cheyenne, Wyo., his third stopping place. Shortly after noon Lieutenant Maughan was driving his motor at top speed to regain lost time. For more than 200 miles westward from Cheyenne the motor ran smoothly, but at Rock Springs the cooler began to leak. Lieutenant Maughan passed over the air mail field at 4:58 p. m. determined to continue to Salduro, Utah, the next stopping place.

The Curtiss pursuit plane (Curtiss D12, 400 hp. engine) on which Lieut. R. L. Maughan, A.S., flew on July 19 from Mitchel Field, N. Y., to Rock Springs, Wyo., a distance of 1930 miles which he covered in 15 hr. elapsed time

Compelled to Turn Back

As the fumes from the escaping oil became stronger, however, he turned back and landed at Rock Springs field. A brief examination by two air mail pilots convinced Lieutenant Maughan that it would be impossible to reach San Francisco, the Western terminus of his flight, before dark. Bitterly disappointed at the failure, when success seemed almost assured, Lieutenant Maughan made a cursory examination of the oil cooler and went to a Rock Spring hotel for the night.

"How do you feel?" he was asked.

"Well, how would you feel?" he replied.

"Just how did your trouble occur?"

"Well, it was a leak in the oil cooler. I noticed it first near North Platte, Neb., but it was not very bad. I thought we had it fixed at Cheyenne, but it became worse as I drove on. Twenty miles out of Rock Springs it began to leak in bucketsful. I thought it best to quit."

Asked whether he was tired, Lieutenant Maughan said:

"Well, I'm leaning against a bedpost here. I am not very tired, however, and could easily have gone to San Francisco."

Lieutenant Maughan characterized as impossible rumors circulated in the East that his plane might have been tampered with before he started the flight. "It was simply a case of the soldered part of the tank coming loose as a result of the vibration caused by steam." he asserted.

"It would have been impossible for any one to have tampered with the oil cooler," he declared. "Any such reports are untrue."

The leak occurred at a place where many of the upper parts would have to be removed if the machinery had been tampered with.

It was fifteen hours to the minute when he landed at Rock Springs from the time he took off at Mitchel Field, in which time he covered a total distance of 1930 miles. The three stops which he made, at Dayton, St. Joseph and Cheyenne, consumed 1 hr. 51 min.

Brief Story of the Flight

Lieut. Maughan took off at Mitchel Field at 4.08 a. m. (eastern standard time) bound for McCook Field, Dayton. On this the first lap of his transcontinental fight, the pilot "played safe," flying the usual airway between the two cities and using familiar land-marks to obviate the danger of becoming lost, which cost him a delay of more than an hour in his first attempt. He arrived at Dayton at 8:35 a. m. (eastern standard time), 51 min. behind his tentative schedule. He had covered the first lap of his trip, 570 miles, in 4 hr. 27 min. His air speed indicator during most of the journey had registered 155 m.p.h.

After his plane had been refueled and examined and he had eaten a light breakfast he took the air at 8:53 a. m. and headed southwest for St. Joseph, Mo.

At 11:25 o'clock central time Maughan arrived at St. Joseph. He was greeted effusively by the townspeople, who had witnessed the disappointing termination of his first attempt. A distance of 1,140 miles, he was already almost half way across the continent, but still slightly behind the schedule he originally had set.

His plane was examined and tuned up again and he took off at 12:03 p. m. for Cheyenne, the third stopping point.

The first protracted break in Maughan's schedule came at

Cheyenne, where he landed at 2.32 p. m. (mountain time). Fifty-five minutes later, still suffering from the effects of the nausea which had resulted from the fumes of the leaking oil, he arose, determined, despite the handicap he then was under, to complete his transcontinental trip before daylight vanished.

Lieutenant Maughan had covered a total distance of 1680 miles when he landed at Cheyenne. On the basis of the total elapsed time since he had left Mitchel Field, he had traversed nearly two thirds of the continent at an average speed of 135.6 m.p.h. He hopped off at 3:27 p. m. after the oil leak had been hastily soldered.

From Cheyenne to Rock Springs, Maughan drove his plane at a speed of 170 m.p.h. for 245 miles. When forced to land at Rock Springs he had come within 645 miles of his goal.

A telegram sent by Lieutenant Maughan after he had made a forced landing in Rock Springs reached Mineola at 10:37 p.m. It read:

"Commanding Officer, Mitchel Field, L. I., New York: Broken oil cooler makes continuance impossible today.

"Maughan."

The message was read to the air personnel at the field by Maj. William N. Hensley, the new commandant and caused general sorrow and regret.

Hope for the completion of Lieut. Maughan's flight was not abandoned at Mitchel Field until the very last minute. A dinner had been arranged to celebrate the record that seemed so close when he was reported going well over Nebraska and Wyoming. The news of the descent put a damper on this dinner and many of the officers returned to the field in the hope that the flight would be resumed after repairs.

They hung around the radio and telephone rooms at post until nearly midnight.

Officers at Mitchel Field believe the fact that Maughan was sick at Cheyenne reveals the real cause of the failure.

"The plane must have got a terrific bumping in rough air over the plains." said one of the officers. "That must have loosened the oil lead some place and when Maughan opened her up to the full to get the two hundred miles an hour he was making over Rawlings, that finished it."

It is recognized at Mitchel Field that the shortening days will make another attempt at the record impossible this year.

Following is a schedule of Lieutenant Maughan's flight from Mitchel Field to Rock Springs, the figures being eastern standard time:

	Arrived	Left	Miles
New York	.....	4:08	....
Dayton	8:35	8:53	580
St. Joseph	12:25	1:03	1,140
Cheyenne	4:32	5:27	1,680
Rock Springs	5:08	....	1,930

Maughan's own schedule for the trip prepared prior to his first attempted flight, on a basis of 160 m.p.h. average speed follows:

	Miles	H.	M.
Mitchel Field-Dayton	580	3	36
Dayton-St. Joseph	560	3	25
Salduro-Crissy Field	500	3	6
Cheyenne-Salduro	470	3	00
St. Joseph-Cheyenne	530	3	20

Preparatory Work for St. Louis Air Races

Encouraging reports come from St. Louis regarding the progress of work on the field where the International Air Races will be held Oct. 1, 2 and 3. AVIATION has received from its special correspondent at St. Louis a statement given out by Col. Albert T. Perkins, a noted engineer, who is chairman of the Grounds Committee of the St. Louis Aeronautic Corporation, in which assurance is given that the field will be ready for the world's fliers at the appointed time. Colonel Perkins says:

Rapid Progress in Field Work

"If there be any who entertain doubts concerning the readiness of St. Louis Field for the International Air Races, Oct. 1, 2 and 3, let them compose their minds. The field will be ready and it will be in such shape that none can complain either of its conditions or of any delay in fulfilment of St. Louis' promises.

"Our records show that up to Tuesday night, July 10, we have moved 125,000 cubic yards of earth. The rough grading will be finished within ten days. This grading, by the way, represents the equivalent of 50 miles of ordinary railroad grade, and it is 75 per cent completed. We have had on job since early in May a force composed of 100 men, five 10-ton tractors, and 75 three-hitch mule teams. Webb & Kunze are the grading contractors.

"One of the big jobs involved in getting the grounds ready for the races was the construction of a sewer one mile long and five feet square, giving a clear straight-away waterway inside of 50 x 48 in. About 3000 ft. of this sewer is now completed by the M. C. Bartels Construction Co., Contractors. The job will be finished by Aug. 1. The one mile of sewer takes the place of 3 miles of meandering of the old Coldwater Creek, a small stream which was troublesome only in wet weather. Its elimination insures an absolutely firm field for the aviators, no matter what the weather conditions may be Oct. 1, 2 and 3. In addition, the drainage contractors have finished about 6000 ft. of the 3 miles of tiling, ranging in size from 4 to 12 in. to be laid. The job also will be completed by Aug. 1.

"Already work has been begun on the first of two steel hangars, the grading and concrete foundations having been completed. These hangars will each be 66 x 120 ft. The material for the hangars is now ready for the structural workers and the first column was erected today (July 12). The first two hangars will be completed in two weeks, according to calculations of the Mississippi Valley Structural Steel Co., which has the contract. Four additional hangars and a large machine shop will be erected later.

"Contracts are being let for a water tower 50 ft. high, with a capacity of 10,000 gal. This is one of the government requirements, as, in addition to the fliers and mechanics, there will be 800 Regular Army troops quartered at the field during the races. A large well will be sunk to furnish an abundant water supply.

"Seating arrangements for the Air Races have been worked out, and provide for 3200 boxes, each accommodating six persons, a total of 19,200, with promenades for 50,000 people. In addition there will be room inside the grounds for parking a minimum of 6000 cars. The main entrance will be located on Natural Bridge Road, east of the present terminus of the Bridgeton car line."

Maj. M. F. Scanlon, who will be the personal representative of Maj. Gen. Mason M. Patrick, Chief of the U. S. Army Air Service, in connection with the preparations for the St. Louis Air Races, was expected to arrive in St. Louis, July 16 from McCook Field, Dayton, Ohio. Major Scanlon was formerly in command of Bolling Field, Washington, D. C. He will have headquarters at the St. Louis Air Board, 511 Locust Street, until after the races in October.

"Aerial Cornerstone Laying"

The unique ceremony of an "aerial cornerstone laying" was held at St. Louis Field, July 12. By way of formally dedicating the field and marking the erection of the first column of the first steel hangar, Maj. Albert Bond Lambert, pioneer aviation enthusiast of St. Louis, took a 150 lb. stone up in an airplane and dropped it with a fair degree of accuracy near the site of the hangar. Arthur B. Birge, General Man-

ager of the St. Louis Aeronautic Corp., acted as master of ceremonies and brief addresses were made by B. F. Bush, President and Director General; Carl F. G. Meyer, Chairman of the Finance Committee; Col. A. T. Perkins, Chairman of the Grounds Committee, and Major Lambert. Colonel Perkins explained the seating and parking arrangements for the race meet. Major Lambert predicted that within seven years commercial airplanes would be flying to the field, not only from all parts of the southwest, but from Mexico and South America as well.

The First Entries

The first entry for the On-to-St. Louis race has already been received. It is that of Bertha Dale Horchem, of Ransom, Kansas. Mrs. Horchem took part in a flying exhibition at St. Louis Field, July 4, and on the following day made a successful trial for the altitude record for women, reaching a height of 16,300 ft. She is 24 years of age and has been flying only a year. More than a hundred pilots from all parts of the United States and Canada are expected to take part in the On-to-St. Louis race, in which cash prizes of $1000 and the St. Louis Chamber of Commerce trophy will be contested for. Mrs. Horchem flies a Laird "Swallow," the same make of plane used by Walker H. Beach of Wichita, Kan., who won the On-to-Detroit race last year.

In a long distance telephone conversation with Air Board headquarters, during his recent enforced stay at St. Joseph, Mo., Lieut. Russell L. Maughan, A.S., holder of the Pulitzer Trophy, said he expected to defend the trophy at St. Louis, Oct. 3. It is likely he will contest with Sadi-Lecointe, the French ace, and Brack-Papa, the Italian flier, as well as the best of the U. S. Army and Navy pilots, in this race.

The Navy has completed its plans for participation in the St. Louis Air Races. Navy pilots will compete in three races, the Liberty Engine Builder's Trophy Race on Oct. 1, the Merchant's Exchange of St. Louis Trophy Race on Oct. 2, and the Pulitzer Trophy Race on Oct. 3.

The following pilots and planes will represent the Navy.

Liberty Builder's Race

2nd Lieut. G. B. Hall, U.S.M.C.—Vought UO1 plane
Lieut. (jg.) D. C. Allen, U.S.N.—Curtiss 18T plane

Merchant's Exchange Race

Lieut. (jg) M. A. Schur, U.S.N.—Douglas DT4 plane
Boatswain E. E. Reber, U.S.N.—Douglas DT4 plane

Pulitzer Race

Lieut. S. W. Callaway, U.S.N.—Navy TX plane
1st Lieut. L. H. Sanderson, U.S.M.C.—Navy TX plane
Ens. A. J. Williams, U.S.N.—Curtiss CR plane
Lieut. H. J. Brow, U.S.N.—Curtiss CR plane

Lieut. Comdr. Marc A. Mitscher, U.S.N., will be in charge of the Naval Air Detail, with Lieut. B. R. Holcombe, U.S.N., as assistant and Lieut. (j.g.) J. Fellis, U.S.N. (S.C.) as supply officer. All the officers will be assembled at the Naval Air Station, Anacostia, D. C., prior to Aug. 1, where the racing pilots will undergo training for the races.

Twenty-three enlisted men from the different Naval Air stations will be detailed for duty in connection with the races and will report to Anacostia at the same time as the officers.

The entire detail will go to St. Louis about Sept. 10, thus giving them adequate time to familiarize themselves with the conditions of the Races and the information necessary concerning the flying field, etc.

Col. Perkins' War Record

Col. Albert T. Perkins, Chairman of the Grounds Committee of the St. Louis Aeronautic Corp., who is in charge of the actual work of preparation of St. Louis Field for the International Air Races, Oct. 1, 2 and 3, is a distinguished engineer with a record for getting results. Before the World War, Colonel Perkins was superintendent of terminals for the Burlington Railroad at St. Louis, and later consulting engineer for the St. Louis Union Trust Co., which had large investments in railroad securities in Texas and elsewhere. His present title is Manager for the Receiver of the United Railways Co., controlling all street car lines in St. Louis and St. Louis County.

Of Colonel Perkins' war record, "Harvard War Records" says:

"Perkins, Albert Thompson, A. B., '87; A. M. (Honorary) '19.

Commissioned major Engineers June 28, 1917; promoted lieutenant colonel July 6; assigned to 14th Engineers (Railway) July 12; sailed for France July 27; unit attached to British Expeditionary Forces August to October; appointed deputy manager Light Railways (Combat Railways), A.E.F. Oct. 27; appointed manager Light Railways (Combat Railways), A.E.F. March 20, 1918; promoted Colonel August 13; became director Light Railways, A.E.F., December 27; returned to United States March 6, 1919; discharged March 11, 1919. Engagements; Cambrai 1917, Passchendale Ridge 1917, Marne-Aisne offensive, Somme offensive 1918, Saint Mihiel and Meuse-Argonne offensives. Awarded Order of St. Michael and St. George (British). Awarded Distinguished Service Medal; "For exceptionally meritorious and distinguished Services. As deputy, and later as manager, of Light Rys., he undertook the task of organizing a light railway service for the American Expeditionary Forces. His long and complete railroad experience and accurate knowledge assured the success of these lines. By his foresight in promptly gathering from the United States a generous supply of railway material, he promptly brought the light railway service to a high degree of efficiency."

President Harding's Interest

President Harding recently visited St. Louis, on his tour around the country, and while there learned of the preparations for the International Air Races. He expressed his interest in the races, and in the subject of aeronautics generally, in the following letter to Mayor Henry W. Kiel, of St. Louis, mailed from Tacoma, Wash., just before the presidential party sailed for Alaska.

EnRoute, June 23, 1923.

My dear Mayor:

During the wonderful day at St. Louis provided for our party, my attention was brought, among other things, to the fact that in October there is to be held at St. Louis the International Aeronautical Races and Pulitzer Cup Contest. I know the occasion will be made particularly notable, and wish to have you know of my particular interest because of the high importance which I attach to the development of the aeronautical science in this country, not merely as one of the most important instruments of national defense, but because of the importance attaching to it as an increasingly useful factor in transportation and communications. I feel strongly that every encouragement should be given to the popularization of aeronautics. I hope, therefore, that the St. Louis races and contests will be the means of further extending interest in the subject and developing the art.

Most sincerely yours,
(Signed:) WARREN G. HARDING.

Hon. Henry William Kiel, Mayor,
St. Louis, Missouri.

American Entrants in Schneider Race

The United States Navy has entered three seaplanes in the International Schneider Cup Race, to be held at Cowes, England, on Sept. 28. It is believed that the world's speed record for seaplanes will be broken in this race. United States entries will be pitted against those from England, France and Italy. The seaplanes to take part are a small twin-float type, of higher speed than any yet designed.

The Navy pilots have been training for the past month at the Naval Air Station, Anacostia, D. C. practicing turns and water work. They are at present at the Curtiss Aeroplane & Motor Co. and at the Wright Aeronautical Corp. and at the Naval Aircraft Factory, supervising final assembly of the racing seaplanes.

Lieuts. F. W. Wead, Rutledge Irvine, A. W. Gorton, and D. Rittenhouse have been selected to represent the United States Navy in this race, and will sail for England on Aug. 18.

Army Team Wins National Balloon Race

Lieut. R. S. Olmstead, Winner — Lieut. J. B. Lawrence, U.S.N., Second — H. E. Honeywell, Third

The 14th National Balloon race, held July 4 from Indianapolis, was won by Lieut. R. S. Olmstead, pilot, and Lieut. J. W. Shoptaw, aide, in the Army balloon S6, who landed near Marilla, N. Y., 449.5 miles from the starting place.

Lieut. J. B. Lawrence, pilot, and Lieut. F. W. Reichelderfer, aide, in the Navy balloon A6700 captured second place with 398.1 miles, while H. E. Honeywell, pilot, and P. J. McCullough, aide, in the civilian balloon St. Louis won third place, covering 397.2 miles and thus coming within nine tenths of a mile of the distance covered by the Navy balloon A6700. Inasmuch as Lieutenant Lawrence and Mr. Honeywell traveled in different lines of flight, the former landing near Glenn Campbell, Pa., and the latter near Brockton, N. Y., the very small difference in the distances covered by the two balloons is very unusual.

The official announcement of the standing of the balloonists in the National Balloon Race was made by the National Aeronautic Association on July 14, and will be found in the N.A.A. Bulletin published in this issue on p. 125.

The Winner's Report

From the report made to the Chief of Air Service by Lieutenant Olmstead, pilot of the winning Army balloon S6, the following excerpts are of interest.

Upon inspecting their balloon, Lieutenant Olmstead and Lieutenant Shoptaw, his aide, found it to be in excellent condition, which improved during the flight. Gas was turned on July 3, and in the afternoon all was ready about two hours before the take off on July 4. The S6 was first off, and Lieutenant Olmstead and his aide felt their balloon was the best of the race. They took off at 4 p. m. actually 3.58 p. m. with two bags false lift, carrying 41 bags of water heavy sand. They flew the entire night at between 300 ft. and 2400 ft. altitude. They watched Captain McCullough in the "American Legionaire" and Lieut. J. B. Lawrence, U.S.N., rise to over 5000 ft. and drift off to the east, while Honeywell followed the lead set by Olmstead and Shoptaw, until darkness blotted the bag from sight. Van Orman also followed them at first but was handicapped by a leaky bag. In the morning, the report to the Army Air Service states, Honeywell was no longer in sight. At about 8 a. m. July 5, while 25 miles southeast of Toledo, the S6 received a radio report that four balloons were seen over Detroit, but later this was found to be a false report.

Hardly had Olmstead and Shoptaw left the ground before they began receiving radio messages on a set which hardly weighed more than a sand bag, and so fashioned that by dissembling it could be distributed as ballast. Weather reports, and finally news of the other competitors' landings were received. "In the future," Olmstead reports, "all racing balloons should be radio equipped."

Continuing he states in part as follows:

"We sailed along all night over Indiana and Ohio, the 300 ft. drag rope touching only three times near Bluffton, Ind. From 5 a. m. to 7 a. m. July 5, we passed over or near Custer, Weston and Bolling Green in Ohio, and at 8.15 crossed the Shore Line of the Lake Erie about 25 miles S.E. of Toledo. The S6 gradually swung eastward in a great circle until we were traveling about N. 60 deg. E., whereas we left Indianapolis on a course N. 30 deg. E. With the coming of the sun the altitude increased to 5000 ft. Crossing Lake Erie we passed over the north edge of Pelee Island to Pt. Pelee, Ont., thence out of sight of land until 12.30 p. m., when the shore line was discerned. This faded away and we saw nothing more of land until 3.20 p. m. when we made out Long Point, Ont. Passing over Long Point and gradually swinging more and more to the westward, we crossed Lake Erie passing into New York State at Angola, at 5.50 p. m. During the passage over Lake Erie our altitude varied from 2800 ft. to 14,000 ft., increasing as we progressed. At about 1.30 p. m. while about opposite Burwell, Ont., and at 10,000 ft., a severe thunderstorm passed about 20 miles to our rear. This storm would have been about opposite Port Stanley where Lieutenants Roth and Null had their accident and may indicate the time at which their balloon went down.

"We were tending to a south of easterly course upon passing Angola at 10,000 ft., therefore, having discovered that the air currents were northerly at 5000 ft. and of greater velocity, we decided to try to strike an equilibrium in this lower air current and cross Lake Ontario at right angles to its length. This decision proved our undoing, for we were unable to obtain equilibrium in this lower air current, expending eight of the seventeen bags with startling rapidity. To add to our troubles it began to rain and became pitch dark. We decided rather than attempt to cross Lake Ontario in the storm and darkness with but nine bags of ballast, our best policy lay in making a landing. Therefore, at 8.15 p. m. central standard time we dropped into a field at Marilla, N. Y., about 15 miles from Buffalo. Had we staid up over 10,000 ft. where we had an equilibrium established for the night, we would probably have reached Eastern New York and the Hudson River before having to land."

Upon examining the S6 in the morning of July 6, the balloonists found that it was none the worse for the trip; they folded it up and had it carried to the Curtiss Elmwood Air Reserve Depot, where it was spread to dry. This same balloon, after reconditioning at Scott Field, will be used in the International Gordon Bennett Balloon Race at Brussels, Belgium, on Sept. 23, next, Lieutenant Olmstead hopes.

Navy Pilots' Flights in Balloon Race

Lieuts. J. B. Lawrence, U.S.N., and F. W. Reichelderfer, U.S.N., in the Navy free balloon A-6700, one of the four Navy entries in the National Elimination Free Balloon Race, who placed in the race, report a very interesting trip. Flying as they did during the night of the Fourth of July, they had a unique experience in viewing the pyrotechnical festivities of a nation from five or ten thousand feet in the air.

The aeronauts had an exciting time of it dodging thunderstorms, rising to 18,000 ft. or more to go over them or skimming the tree tops while passing below them. But the thunderstorms were persistent and they were forced down finally near Glenn Campbell, Pa., after traveling about four hundred miles. They landed at 5.55 p. m. on July 5, after more than twenty-four hours in the air.

Upon landing they were met by the son of State Senator J. O. Clark of Pennsylvania, in his car, who took the naval officers to his father's summer home where they were cordially received. Senator Clark immediately called up Pittsburgh and gave notice of the landing of the aviators.

The aviators were well supplied with food, carrying fried chicken, beans, rolls, chocolate and drinking water.

The Navy balloon piloted by Lieut. F. P. Culbert with Lieut. T. D. Guin as aide, in the Indianapolis Race, was forced down by a leaky valve at Alliance, Ohio, after covering approximately 245 miles.

Lieut. Culbert reports that the valve on his balloon would not rest on its seat, with the result that a constant escape of gas was unavoidable. During the night of the Fourth the aviators were compelled to throw 900 pounds of ballast overboard instead of 200 lb. which would have been a normal amount for that time. This necessitated their landing much sooner than otherwise.

The official report on the flight of the Navy balloon piloted by Lieut. Comdr. J. P. Norfleet, with Lieut. J. B. Anderson as aide, was the tenth to leave Indianapolis, records that very unfavorable weather conditions prevailed the night of the Fourth and the morning of July 5. The two officers decided to fly elose to the ground, with their drag rope out, to avoid the numerous thunderstorm clouds. Lieutenan Com-

mander Norfleet's account from that point on is as fo'lows:

"..... At this time, about 10.00 o'clock, I decided that due to the unstable conditions of the atmosphere I could accomplish a much greater distance by coming down to the ground and drag roping the rest of my flight. I then had about sixteen bags of ballast and other available disposable material, amounting to over 600 lb. There was a good surface wind from 15 to 18 m.p.h., blowing from S.W., the direction to make the greatest distance from Indianapolis, and I was certain that I would be able to stay in the air at least until 8.00 p. m. by drag roping, whereas it would have been necessary to land about noon if I continued to fly at any considerable altitude and continued to experience conditions such as we had just been through. The drag rope was therefore lowered at 10.15 and I let the balloon ride near the ground, losing no ballast at all except a small hand full now and then when it was necessary to clear a house. This method of procedure was working fine until about 10.50 when in dragging across a large oak tree the drag rope became wound around a limb two or three times. I was about to cut it away when I attracted the attention of some people and asked them to release it or cut it at the tree. They were proceeding to do this when a gust of wind at about twenty miles per hour struck the balloon, forcing it down into the branches of this tree, at which time the rip cord became entangled in the branches of this tree, pulling it loose from the basket. This forced me to land at once and ended the race so far as this balloon was concerned."

Weather Notes

The Navy balloonists who hopped off in the Indianapolis Race on the Fourth were supplied with weather information provided by the Navy Aerological personnel that was superior to any data obtainable from other sources.

The night before the race pilot balloons were sent up to determine the wind direction and velocity. This necessitated using pilot balloons carrying lanterns, a phase in aerological practice that only the Navy was equipped to do at this race. Further wind observations at high altitude were taken hourly before the flight on the next day.

During the flight made by Lieut. J. B. Lawrence and Lieut. F. W. Reichelderfer, aerological officer of the Bureau of Aeronautics, special pilot balloon observations were made to the aviators to observe better air currents above or below them. They reached these favorable currents by letting out gas to descend and by throwing out ballast to ascend.

Aerological equipment carried by the Navy balloonists included instruments to show the likelihood of thunderstorms and the temperature and pressure variations in their relation to weather changes.

The following excerpts from the log of the Navy balloon A-6700 that placed in the race, recounts the weather conditions that were encountered in the flight:

"Complete reports of weather conditions encountered by Navy entries in the National Elimination Free Balloon Race are not yet available. Considerable aerological information of interest was collected by the balloon A-6700. The aerological equipment was found very useful, especially the method of taking upper air soundings during the flight, which was worked out previous to the race by the Aerological Section of the Bureau of Aeronautics. The method overcame difficulties which have previously existed due to the blind angle caused by the bag. A variety of wind velocities and directions in different strata of the air were detected by this means and were used to great advantage in gaining distance. Owing to the comparative shortness of the flight of the A-6700, it was not necessary to use the helium flasks to inflate the pilot balloons en route. The balloons which were inflated before the start contained sufficient free lift to be useful for some time. (18 to 20 hr.) If the flight had not been terminated so abruptly by thunderstorms, there is no doubt that the helium flasks would have been needed for filling the balloons the second day out.

"By midafternoon on Thursday, balloon A-6700 had 600 lb. of sand ballast left. (Almost one half of the total.) The ballcon had successfully dodged eight or ten thunderstorms between eleven and four, by changing its course by flying at different altitudes. About 4 p. m., however, large cumulonimbus clouds began to close in on all sides and it was necessary to descend below the clouds since they were too high to fly over. Descent was made with the intention of riding on the drag rope in the hope of weathering the thunderstorm and remaining up for the night. The balloon, however, was caught in an ascending current and in spite of almost continuous valving, rose from 3000 ft. to a height of 18,300 ft. It remained at this level for about one half hour. The lowest temperature at this height was 35 deg. Prolonged valving finally started descent again and the balloon came down through 600 or 800 ft. of cumulus clouds, which was a part of a larger cumulo-nimbus, after which the loss of ballast made it necessary to make a landing in Clearfield County, Pa.

"Because of the amount of ballast left before entering the cumulo-nimbus it seems likely that the balloon could have remained in the air until Friday noon or later, if it had continued successful in dodging showers. The velocity and direction of the wind which prevailed at that time and which have since been verified by sounding reports of the Weather Bureau indicated that a landing in the vicinity of New York City would have been very likely if the flight had continued normally until forced to land because of shortage of ballast.

"One remarkable incident of the flight was the fact that although all balloons were lost sight of soon after the start of the race, the following morning more than an hour after sunrise, four other balloons came in sight of each other for several hours. One was lost to view to the north when it entered clouds about 1400 ft. altitude. Two others landed in Ohio in the mid-afternoon. The fourth which evidently was an Army entry (Lieutenant Miller, pilot) remained in sight and somewhat ahead until it disappeared behind a cumulo-nimbus cloud about 3.30 p. m. It was later found that he landed near Kittanning, Pa., some 35 miles westward of the landing place of the balloon A-6700, his landing evidently having been made an hour earlier to that of the A-6700. The landing of A-6700 was made without incident in a small field about 100 yd. from a road, on the farm of G. D. Kantz.

Loss of Lieuts. Roth and Null

The loss of Lieut. L. J. Roth, U.S.N., and Lieut. T. B. Null, U.S.N., in Navy Balloon A-6698 in Lake Erie during the Indianapolis Balloon Race has deeply saddened all aeronauts, and particularly Naval Aviation.

Rear Admiral W. A. Moffett, Chief of the Bureau of Aeronautics issued the following statement on July 10:

"The death of Lieutenant Roth is one of the most unfortunate and tragic happenings in the history of Naval Aviation and is keenly felt by all his brother officers. He died in line of duty and in the service of his country for the advancement of aeronautics. Those who had the good fortune to know him, know of his many sterling and lovable qualities both as an officer and as a man.

"The fact that Lieutenant Null is still missing is ground for encouragement and hope. We will not relax in any detail our efforts to find him until every chance for his recovery has been exhausted."

Official dispatches reaching the Navy Department on July 9 reported the recovery of the body of Lieut. L. J. Roth, U.S.N., pilot of the Navy Balloon A-6698, found in Lake Erie. The body of Lieut. T. B. Null, aide, has not yet been recovered to date. The Naval reports state that the fishing boat Onajag under command of Capt. George Wilson, picked up the balloon basket from the A-6698 with one body in Lake Erie on July 9. A Naval Academy ring, and the initials L.J.R. on his underwear which was lashed to the balloon basket served to identify the body as that of Lieutenant Roth.

Lieut. L. J. Roth was born in Ohio, May 24, 1890, and graduated from Annapolis in 1913 and entered the Aviation Service in 1920. He took part in the National Balloon race in Birmingham that year, and had been on duty at the Naval Air Station at Hampton Roads, as assembly and repair officer for two years. In February he was ordered to Lakehurst, N. J., in connection with the assembling of the crew for the ZR1. He was not married; his home address is recorded as Cedar Rapids, Iowa.

Lieut. T. B. Null, the other of the missing naval balloonists, was born in Pennsylvania April 14, 1893. He was a member of the crew of the British built ZR2 which fell over the Humber River two years ago with a loss of 42 lives. He escaped that accident, for he was not a passenger on the trial

trip of the great airship. When he returned to this country with the remaining crew members, he was detailed to the Naval Air Station at Hampton Roads. Up to the time of his death he was on duty at Lakehurst in connection with the outfitting of the naval airship ZR1. He is married and his wife resides at Lakehurst, N. J. His home is said to be Haddonsfield, N. J.

Portions of a log kept by Lieutenant Roth, together with clothing and personal effects of the balloonists, were found tangled in the ropes which dragged behind the bag as it drifted through the water.

The last entry was at 5.30 a. m., July 7. It was of only two words: "All over."

It was with great difficulty that this and other entries in the log were deciphered. Two notes scrawled on pieces of torn paper had been stuffed into the pocket of Lieutenant Roth's uniform. "One generator has gone bad," said one of the notes. The other said: "Will try to make Aberdeen and get a new generator. We ought to make it alright." (This apparently referred to a previous flight in an airship.)

Although crudely scribbled and damaged by water, this much of the log could be made out:

"12.15 a. m., Saturday: Flying northeasterly over Berne, Ontario, at an altitude of 800 ft.

"3.15 a. m. Flying 1000 ft. over Rigstown, Ontario.

"3.50 a. m., 1200 ft. elevation, dropped forty pounds' ballast.

"5.30 a. m. 2000."

The final entry in the log gave no location. Opposite in barely readable scrawl were the words: "All over."

Probable Cause of Accident

According to the findings of a preliminary board of investigation which examined the Navy Balloon A6698, an escape valve fouled by defective fabric was responsible for the death of Lieutenants Roth and Null.

Shortly after Lieut. Roth's body was found strapped to the balloon basket, which was floating in Lake Erie, and after hope for recovery of Lieut. Hull's body had been abandoned, what was left of the balloon was sent to the naval air station at Lakehurst, N. J., whence the two officers were detailed to participate in the race.

Comr. Frank R. McCrary, commandant at the Lakehurst station, was directed to examine with particular care the escape valve on the bag, because of a report by Capt. L. T. McArthur, another participant in the balloon race, that he had been forced down a few miles from Indianapolis by a faulty valve.

McArthur landed safely and immediately inspected the working parts of the balloon. He is said to have found that a piece of torn, defective fabric got into the valve opening while the valve was lifted and prevented its closing. Consequently, McArthur was unable to stop the outflow of gas and his craft came to earth. He immediately reported to Washington.

Commander McCrary called in Comdr. Robert D. Weyerbacher, directing the construction of the ZR1, and Comdr. John D. Norsledt, executive officer of the station, to conduct the preliminary examination when the balloon was received.

It has been learned that they notified the Navy Department that the escape valve on the A-6698 had been opened more than a half inch and the fabric had been forced beneath the cap.

Commander McCrary let it be known that the special board of inquiry would begin its investigation as soon as it arrived. It is composed of Commander Jacob Klein, Lieut. Commanders M. R. Pearce and R. J. Miller and Ens. C. E. Bausch.

A Previous Cross-Lake Experience

In connection with the loss in Lake Erie of the crew of Navy balloon A-6698 it is of interest to recall the experience in the 1920 National Balloon Race of the Navy entry, Lt. Raffe Emerson, U.S.N.R.F. pilot, and Lt. j.g. Frank Sloman, U.S.N.R.F., aide. Clinging for more than 13 hr. to the rigging of their balloon, this crew, after starting from North Birmingham, Ala., Sept. 25, landed on the southwest shore of Lake Erie at 6.55 a. m., Sept. 27, placing their balloon third in the race. This ended, undoubtedly, the most thrilling flight ever undertaken by Navy pilots in a free balloon.

After leaving Birmingham at 5.49 p. m. in 6 hr. 20 min. the balloon crossed the Mississippi boundary and at 6.00 on the morning of the 26th, the balloon crossed the Kentucky boundary. At 11 o'clock in the forenoon, the balloon landed to escape approaching thunder storms. At this time, the Army balloon in charge of Leo Stevens was forced out of the race. At half past one, another landing was made at Hartford, Ky., and at quarter past five, another landing was made in Spruce County, Ind. At this place the pilot's basket was cut away and abandoned, due to loss of gas during movements around and through thunderstorms and high storm areas. From this point on, the pilots clung to the rigging above the concentration ring. At midnight of the 27th, the balloon passed over the center of Indianapolis, Ind., and at 3.30 a. m. crossed the Ohio border. Approaching Sandusky Bay at 6.40, large rain storms, accompanied by lightning, overtook the balloon the wind coming from the southwest and west, and extending northward, and northeastward, of the balloon's drifting course, the tremendous area of this storm cut off the approach to the Canadian Coast, also forcing the balloon to traverse Lake Erie lengthwise, and with insufficient ballast to compensate for rain driving down and weighing the balloon, Lieutenant Emerson decided to land. This was done by ripping the balloon in the air, and the landing was made at 6.50 without injury to the balloon or remaining equipment.

The landing was made in a hay field 3 miles east of Graytown, Ohio, after having made 590 statute miles from North Birmingham. Duration of flight was 37 hr. 1 min. Maximum altitude, first night, 6200 ft.; second night, 6900 ft.; last day, 3600 ft. Average speed in a straight line was 14 knots,—over the entire course, 19 knots. Maximum observed speed, 40 knots.

Lieutenant Emerson was an experienced balloonist before his entry into Naval Aviation in which he served from 1917 to 1922. He saw service abroad with the British forces in the North Sea, and on Rear Admiral Sims' staff until the armistice, then on technical matters connected with airships until his return to the United States in the Summer of 1919.

Successful Light Plane

(c) Kadel & Herbert

British light plane "Wren" (7 hp.) and its pilot, Sqn. Leader Wright, who flew it at the recent R.A.F. Pageant near London

Larsen Vindicated at Insurance Trial

Again Urges N.A.A. to Settle Controversy over Larsen Efficiency Trophy

In the suit of Commercial Union Assurance Co. against John M. Larsen, tried in the Supreme Court of New York, for recovery of payments of insurance made in connection with the burning of the Larsen hangars last year, almost all the Jury after rendering its verdict signed a statement upholding Mr. Larsen's contention. The Jury stood eleven to one in favor of Larsen and in their statement recorded their indignation and resentment, and made clear that they believe him "innocent and express our admiration for him."

The fire in question, destroying three hangars, five airplanes and many motors and much other equipment, happened on Feb. 8, 1922, through a German mechanic Bühl who claimed in a statement under oath that the fire happened accidentally from a blow torch he was using while soldering radiators. After the fire started, he saved two airplanes out of one hangar. The trial developed that later in the summer or early fall C. J. Wrightsman and his son, C. B. Wrightsman of Tulsa, Okla., came east and engaged lawyers and detectives. It will be remembered that Mr. Larsen protested the award to Wrightsman on the grounds of questionable manipulation in connection with the gasoline consumption of Wrightsman's entry. It was claimed that Wrightsman's machine, a two seater SVA machine, with a 225 hp. Spa motor, had carried a useful load of 1188 lb. (nearly double normal full load) and had averaged a speed (allowing for turns) of about 100 m.p.h. on a gasoline consumption of only 9 gal. per hour. Mr. Larsen protested this result as absurd and a mechanical impossibility and as prima facie evidence of fraud or gross error—and offered Wrightsman $10,000 cash and the $5,000 prize money won by Larsen's machines, or a total of $15,000 cash, if he, Wrightsman, would fly or have his machine fly for only one hour within 25 per cent of the 9 gal. per hour gasoline consumption claimed by Wrightsman, and if Wrightsman could make good on his claim, Larsen offered in addition to giving Wrightsman $15,000 cash, to apologize for challenging the honesty of the performance. This Wrightsman refused to do.

Mr. Larsen then immediately filed protest with the Aero Club of America, the holder of the F.A.I. License under whose rules the race was held. Caleb Bragg, Chairman of the Contest Committee, accepted Larsen's appeal and notified the Omaha Aero Club of the fact and that under the rules no prize money can be paid out until the appeal is finally disposed of. The Omaha Aero Club ignored Caleb Bragg's instructions and paid Wrightsman the first prize and tendered Larsen checks for second and third, which he promptly refused on two grounds—first, no money could legally be paid until protest was decided; second, that he claiming to have won first and by a wide margin, would not consider second and third. Wrightsman took the prize money and Bragg wired him to return the money which he refused to do.

The case was heard before a special investigating committee of the Aero Club of America, and a great amount of evidence was introduced by leading aeronautical engineers, expert pilots and airmen of high standing—all claiming it a physical impossibility for the SVA machine to have flown the race on a gasoline consumption, of only 9 gal. per hour. The SVA test pilot, Lloyd Bertaud, having test flown this identical machine, swore the performance claimed was absolutely impossible claiming it would at very least require about 14 gal. and practically all the expert testimony harmonized with the test pilot's statement. McCook Field estimated 75 lb. of fuel per hour as minimum.

During the investigation before the special committee of Aero Club of America sworn affidavit by Layman was presented in which he, Layman, confessed to deception in connection with the gasoline accounting, not only of the Wrightsman entry, but also on the other SVA entry flown by "Slim" Lewis. Layman swore that he had managed to get over 14 gal. more gas into the Slim Lewis ship than the judges knew about, but that Lewis discovered this deception just as he was taking off, and while flying his first lap, decided to land and quit the race, which he did. Lewis was called before the committee and verified the statement of Layman.

Layman further testified that he assisted in the deception in connection with the accounting of gasoline left over in Wrightsman's machine at end of the race whereby Wrightsman received credit for much more "left over" gas than there really was. Layman was called before the committee in person and was examined at length and confirmed every detail of his affidavit.

Henry Crane, well known engineer and expert member of the investigating committee, stated that in his opinion the gasoline consumption claimed by Wrightsman was not possible and that the confession of deception by Layman was the solution of the problem.

The case was finally referred to the Contest Committee of the Aero Club of America, and its first step was to make another demand on Wrightsman to return the prize money held contrary to F.A.I. rules and to make the refund within ten days, in order to qualify him to defend himself at the final hearing. Wrightsman again failed to comply with the demand for the return of the money and on account of Mr. Larsen going on an extended trip to Europe to study commercial aviation, the case was held up pending his return in May.

During Mr. Larsen's absence in Europe the detectives employed by Mr. Wrightsman were active and in their efforts to secure evidence against Mr. Larsen, cultivated the mechanic Bühl who had sworn that the fire at the Larsen hangars was accidentally set by a blow torch. Bühl stated at the trial that he was taken to a hotel in New York, and while there was confronted by what he supposed were police detectives who threatened him. He was then induced to sign the confession prepared by the detectives, and for some time thereafter was not only guarded by detectives but received a weekly payment from them. On this confession several efforts were made to indict Mr. Larsen but without success.

Unable to get any criminal action started, a civil action was commenced by an insurance company against Mr. Larsen for recovery of insurance paid on hangar loss. The case was set for trial in May and Mr. Larsen who was thought to be in Europe suddenly appeared. The insurance company attempted to prove that Mr. Larsen was pressed for funds, but that was disproved by the evidence produced by the defense which showed that Mr. Larsen was worth over half a million dollars at the time of the fire.

After the closing of the trial, Mr. Larsen again proceeded with his appeal on the unfinished Omaha race controversy. As the Aero Club of America had in the meantime turned its trophies and its F.A.I. License over to the National Aeronautic Association, the latter, as legal successor to the Aero Club of America, is obliged to finish up this pending appeal. The case, with all its evidence, has already been turned over to Colonel Lahm, Chairman of the new Contest Committee, by Mr. Larsen who now expects a speedy disposition of this long-drawn-out case.

Mr. Larsen makes the following reply to some ill-informed critics who have claimed that when he offered the valuable Larsen Efficiency Trophy he knew he would or could win it. Mr. Larsen feels this criticism is entirely unfair, because among the fifteen to twenty original entries, there were two or three Fokker 6-passenger ships of the latest model, powered with the identical motors as Mr. Larsen's JL ships and which therefore should have been most worthy opponents to the JL ships and made a most interesting duel between the two latest post-war types. That the Fokker ships did not reach Omaha by reason of fog could, of course, not be anticipated by Mr. Larsen several months in advance when he decided on the trophy.

Howard E. Coffin, Pres. B. H. Mulvihill, V. Pres. B. F. Castle, Treas. John B. Coleman, Rec. Sec.

Official Bulletin of National Aeronautic Association of U.S.A.

Col. H. E. Hartney, General Manager Cable Address, Nalaero
National Headquarters, 26 Jackson Place, Washington, D.C.

The National Aeronautic Association of U.S.A. assumes responsibility for the statements under this heading

New Records Confirmed by F.A.I.

"Since the publication of official world's record three months ago, many fine performances have been accomplished. In the first place, we note the very great effort in the United States, where the military air service *under the perfect control of the National Aeronautic Association* have acquired almost all records for Class C. (Airplanes) Lieutenant Maughan raised the world record for high speed held by Sadi Lecointe from 375 to 380 kilometers. Lieuts. Oakley G. Kelley and John A. Macready became holders of records for duration, 36 hr. 4 min. 36 sec., and distance, 4050 kilometers.

"In France several records have been broken, among them speed for 500 kilometers, by Lieutenant Batelier and for 1000 kilometers by Lieutenant Carrier; altitude with 250 kilograms weight by Casale. These records will not show in the table of records as of the 1st of July, for during the preceding three months they were broken again, but we think it worth while for the history of aviation to make note of them in our bulletin.

"In Spain, Thiery obtained the record with 500 kilograms of useful load.

"During this time Casale on a 4 motored Bleriot machine established a new world record, that of altitude with 1000 kilograms of useful load; finally Descamps, at Biskra rose to 545 meters, thus obtaining the record for height of Class D (motorless airplanes).

"Never since the foundation of the F.A.I. has the struggle been as keen; and it is an agreeable surprise to see the importance that the records of the F.A.I. hold throughout the world; and the enthusiasm with which each nation seeks to gain them. From this excellent sporting competition great progress will be born, to the great benefit of aviation throughout the world."

The above was taken from the official bulletin of the Federation Aeronautique Internationale for the month of June which has just been received at National Headquarters.

An interesting account of the March meeting of the F.A.I. at Paris at which F. S. Lahm (Chairman of the Foreign Relations Committee of the N.A.A.) presided, is given in the same Bulletin and the following is an extract from the Minutes of the Meeting in connection with the Association's proposal to change the endurance flight regulations:

"M. Tissandier read a very interesting report sent to him from America regarding a method of calculating speed records; and the discontinuance, for records of duration and distance, of the obligation to return to the point of departure. He indicated that these proposals arrived too late for them to be put into the order of business, according to the rules. He thought, however, that they ought to be presented to the delegates who could, after having considered them, give an enlightening opinion at Gothenburg.

"Unanimously, the assembly declared itself interested in these propositions, which appeared to require a careful examination. It was decided that the officers would request a report on them from the Scientific Committee of the F.A.I. which report will be presented at Gothenburg."

National Balloon Race

The winners of the National Elimination Balloon Race held at Indianapolis, July 4, are as follows:

1. Lt. Robt. S. Olmstead, U.S.A., 2½ miles W. of Marilla, N. Y. 449.5 miles

2. Lt. J. B. Lawrence, U.S.N., 2½ miles E. of Glen Campbell, Pa. 398.1 miles.

3. H. E. Honeywell, Civ., 2 miles N. of Brockton, N. Y. 397.2 miles.

4. Capt. L. T. Miller, U.S.A., 4 miles E. of Ford City, Pa. 370.0 miles

5. C. E. McCullough, O.R.C., 1 mile S. of Frankfort Spr., Pa. 312 miles.

6. Lt. F. B. Culbert, U.S.N., 4 miles S.S.E. Alliance, Ohio. 284 miles.

The great circle distance has been figured by the United States Geological Survey in accordance with the point of final landing as reported in the official log of each contestant.

The winners of first, second and third place have been selected as a team to represent the United States in the Gordon Bennett Balloon Race to be held at Brussels, Belgium, Sept. 23, 1923. The winners of fourth, fifth and sixth place have been selected as alternates.

The Indianapolis Chamber of Commerce is to be congratulated on the splendid way in which the Balloon Race was handled, particularly the method used in controlling the balloons immediately before the take-off and for the promptness with which the entrants were dispatched.

Hard rain and thunder storms preceded the race and continued intermittently throughout the time most of the balloons were in the air. Practically every pilot reported having drifted into severe wind and rain storms.

The official logs of the various pilots have been received at Headquarters and are interesting in the extreme. Probably the most interesting was the experience of Ralph Upson when his balloon split at a height of 5800 ft., forcing him to descend, using his balloon as a parachute.

One regrettable and sad feature marked the event in the loss of Lieuts. J. L. Roth and T. B. Null, Naval Entrants, when their balloon U.S.N.A.-5698 was lost over Lake Erie. Up to the time of this release the body of Lieutenant Null has not been found but there is no let-up in the search for him.

H. E. Honeywell who landed third place in the race was probably the last one to have seen the ill-fated balloon as it was drifting over Lake Erie late Thursday during a heavy storm. Honeywell was fortunate in being able to make a landing on a high cliff on the edge of Lake Erie near Brockton, N. Y.

Free Flying Scholarships

The National Aeronautic Association announces that it has made arrangements whereby young men or women who desire to learn to fly can obtain free flying instructions in American flying schools, by obtaining 100 members for the Association.

These scholarships, on the average, are worth $200, and this offer of the National Aeronautic Association is made possible through the liberal co-operation of some of the best flying schools in the country.

In addition to these free flying scholarships there has been donated to the National Aeronautic Association a JN4D airplane, completely equipped for flying, to be awarded to the contestant winning a scholarship who brings into the Association the largest number of members.

Contestants obtaining more members than necessary to win a scholarship are to receive cash awards toward paying their training expenses in proportion to the number of excess members they obtain.

Thus the winner of the contest would not only learn to fly without cost, but have the training expenses free, and be able to hop off in his own airplane.

The number of contestants in a city will be limited to one for each 25,000 population.

The contest opens Aug. 15, and closes Sept. 30, 1923.

Members are earnestly requested to render all assistance possible to contestants. Furnishing to the newspapers of your city the information contained in the foregoing announcement will be of great service.

It is interesting to note that the Royal Aero Club of Great Britain is conducting a contest somewhat along the lines of the above. The objects of the Royal Aero Club are:

INTERNATIONA

ST. LOUIS FIELD, C

Don't Mis

$13,300 CASH PRIZES

$30,000 IN GOLD AND SILVER

TROPHIES

Including

Pulitzer Trophy

Liberty Engine Builders' Trophy

"On to St. Louis" Trophy

THIRD NATIONAL AERO CONGRESS

CONVENTION OF THE NATIONAL AERONAUTIC ASSOCIATION OF U. S. A.

AIR INSTITUTE OF THE AERONAUTICAL CHAMBER OF COMMERCE OF AMERICA

Beautiful Electric Lighted Floats

and Pageant of the Veiled Prophet

NAL AIR RACES

D, October 1-2-3, 1923

n't Miss Them

AERONAUTICAL EXHIBITION OF SMALLEST, LARGEST, FASTEST AIRCRAFT IN THE WORLD

AERO ENGINES, PROPELLERS, ACCESSORIES

The fastest ARMY and NAVY and MAIL PLANES are entered in the races.

			Total Prizes
1.	September 20 to 30—"On to St. Louis" for St. Louis Chamber of Commerce Trophy	Civilians Only	$1,000
2.	Monday, Oct. 1—Two Seaters (90 H. P. or less) for Flying Club of St. Louis Trophy	Civilians Only	$1,000
3.	Monday, Oct. 1—Observation Planes for Liberty Engine Builders Trophy	Military Only	$1,500
4.	Tuesday, Oct. 2—Light Commercial Handicap (200 H. P. or less) for Aviation Country Club of Detroit Trophy	Civilians Only	$2,000
5.	Tuesday, Oct. 2—Large Capacity Planes for Merchants Exchange of St. Louis Trophy	Civilian and Military	$2,000
6.	Tuesday, Oct. 2—Model Race for Mulvihill Trophy	Members Junior Flying League, National Aeronautic Association	$ 300
7.	Wednesday, Oct. 3—Air Mail Planes for Detroit News Air Mail Trophy	U. S. Air Mail Pilots	$1,500
8.	Wednesday, Oct. 3—High Speed Planes for Pulitzer Trophy	Civilian and Military	$4,000

Endorsed by President Warren G. Harding and the Secretaries of the Army and the Navy and the Postmaster General. Sanctioned by the National Aeronautic Association of the U. S. A. under the rules and Regulations of the F. A. I.

For full information, description of trophies, entry blanks etc. address

FLYING CLUB OF ST. LOUIS

511 Locust St. **St. Louis, Mo.**

1. To encourage flying for purposes of transport and national defense.
2. To stimulate interest in flying and to assist and encourage any person or institution engaged in advancing aeronautics.
3. To promote flying contests in various parts of the country and offer prizes:
   (a) To encourage progress in design of aircraft and aero engines.
   (b) To advance the art of flying.
4. To assist the development of gliding by providing facilities at suitable localities and by offering prizes.
5. To secure uniform legislation relating to aeronautics.
6. To establish a Bureau of Information and Advice on Air Travel at home and abroad, customs regulations, passenger flights, etc.

Prizes have been offered as follows:

Free Associateship

(A) Persons introducing five Associates will have free Associateship for one year, entitling them to receive all benefits and privileges.

Free trip by air (or rail) to Paris, Brussels or Amsterdam:

(B) Persons introducing twenty Associates will be entitled to a free trip by air (or rail) to Paris, Brussels or Amsterdam and return, provided advantage has not been taken of offer (A).

Free trip by air (or rail) to Paris, Brussels or Amsterdam and agreed hotel expenses for one week

(C) Persons introducing fifty Associates will be entitled to a free trip by air (or rail) to Paris, Brussels or Amsterdam and Hotel Expenses for one week, provided advantage has not been taken of offers A and B.

Free training in flying

(D) Persons introducing two hundred Associates will be entitled to free training in flying for a Pilot's Certificate (this costs about 125 pounds), provided advantage has not been taken of offers A, B or C.

Personals

Among visitors at National Headquarters recently were Frank S. Lahm, Vice President of the F.A.I. and Chairman of the Foreign Relations Committee of the N.A.A.

Mr. Lahm plans several months' stay in this country and reports many interesting aeronautical developments abroad.

Allen S. Hackett, Chairman of the Chapter Committee at New Orleans, stopped at National Headquarters enroute to New Orleans after a visit to the mountains in New England. Mr. Hackett is an enthusiastic and active member of the Association and made a very encouraging report on the New Orleans activity.

R. J. Walters, Governor of the 3rd District, stopped at Headquarters recently and advised that in connection with his passenger line at Colonial Beach, Va., he is boosting for memberships in the N.A.A.

Dr. Alexander Klemin of New York University, was a recent visitor.

Warren Noble, of Providence, who is installing the starting apparatus on the ZR1 called in at Headquarters during a recent trip to Washington.

A very interesting letter has just been received from Mr. Ralph Cram, Vice-President and Governor of the 7th District and member of the Publicity Committee, enclosing the July Fly Leaf. Mr. Cram threatens to make his District the leading one in the Association and challenges anyone to outdo it.

Among the supporters and endorsers of the Association are the following Governors of States throughout the country: Gov. Lee M. Russell, Jackson, Miss; Gov. W. W. Brandon, Montgomery, Ala.; Gov. Thos. W. Hardwick, Atlanta, Ga.; Gov. Thos. G. McLeod, Columbia, S. C.; Gov. Austin Peay, Nashville, Tenn.; Gov. J. A. O. Preus, Minneapolis, Minn.; Gov. Jonathan M. Davis, Topeka, Kans.; Gov. J. C. Walton, Oklahoma City, Okla.; Gov. Schrugham, Carson City, Nev.; Gov. Charles R. Mabey, Salt Lake City, Utah; Gov. Wm. S. Flynn, Providence, R. I.

The annual report of the Canadian Air Board has just been received at these Headquarters through the courtesy of the Air Board at Ottawa; and members will be furnished any information in connection with Canadian activities upon request.

Chapter Roll

Chapter No. 1 New York City, N. Y.
Sec. Archibald Black
Treas. B. Douglas Wardrop.

Chapter No. 2 Philadelphia, Pa.
Pres. Hollingshead N. Taylor
V-Pres. Samuel B. Eckert
Sec.-Treas. C. T. Ludington.

Chapter No. 3 Davenport, Iowa.
Officers not yet elected.

Chapter No. 4 Akron, Ohio.
Pres. P. W. Litchfield
V-Pres. John R. Gammeter
Sec. Hugh Allen
Treas. Norman G. Nelson.

Chapter No. 5 Which Will It Be?

Near Chapter Roll

Applications to form Chapter Charter Member Committees have been received from these cities, and the work of enrollment is actively proceeding.

First District

Lowell Mass., Chairman, Arthur F. Woodies, Lowell Sun.

Manchester, N. H., Chairman, Frank Knox, Manchester Union Leader.

Springfield, Mass., Chairman, Ralph E. Whittle, Storms Drop Forging.

Worcester, Mass., Chairman, Samuel H. Colten, 72 Mechanic Street.

Second District

Montclair, N. J., Chairman, Geo. W. Eypper, 168 Midland Ave.

Paterson, N. J., Chairman, Geo. S. Wheat.

Third District

Fredericksburg, Va., Chairman, John Eastwood

Pittsburgh, Pa., Chairman, B. H. Mulvihill, B. F. Jones Building.

Washington, D. C., Chairman, Col. Chas. D. E. Chandler, 1716 H St., N. W.

Fourth District

Columbia, S. C., Chairman, Hon. Thos. G. McLeod, Gov. of S. C., State Capitol.

Jacksonville, Fla., Chairman, Robert L. Fisher, People's Bank.

Knoxville, Tenn., Chairman, Carlos C. Campbell, Board of Commerce.

Macon, Ga., Chairman, D. L. Churchwell, Washington Block.

Miami, Fla., Chairman, E. D. Ackerman, Guarantee Title & Mortgage Co.

Mobile, Ala., Chairman, J. E. Addicks, Chamber of Commerce.

Nashville, Tenn., Chairman, Richard D. Graves, 534 Stahlman Bldg.

New Orleans, La., Chairman, Allen S. Hackett, 454 Walnut St.

Pensacola, Fla., Chairman, Harry W. Thompson, Pres. Gulf Coast Airline.

Savannah, Ga., Chairman, J. H. Winker, Strachan Shipping Co.

Tampa, Fla., Chairman, Capt. Wm. O. Ryan, U. S. Army.

Fifth District

Sixth District

Detroit, Mich., Chairman, Col. C. G. Edgar, Board of Commerce.

Saginaw, Mich., Chairman, Arthur A. Schupp.

Seventh District

Minneapolis, Minn., Chairman, E. F. Chapman, Jr., Aero Club of Minneapolis

St. Joseph, Mo., Chairman, C. H. Wolfley, 310 So. Eighth St.

Eighth District

Tucson, Ariz., Chairman, Ben C. Hill.

Ninth District

Los Angeles, Calif., Chairman, Roy S. Gradle, Western Aircraft Corp.

San Diego, Calif., Chairman, H. E. Morin, San Diego Union.

Seattle, Wash., Chairman, E. N. Goot, Boeing Airplane Co.

Honolulu, T. H., Chairman, Hon. W. R. Farrington, Gov. of Hawaii.

Interested in Chapter Organization

Members in the following cities have signified their interest in local chapter organization and have agreed to make application to form Chapter Charter Member Committees in the near future.

First District

Augusta, Me., Rockport, Me., Newport, R. I.

Second District

Wilmington, Del.; Atlantic City, N. J.,; Jersey City, N. J.; Hammondsport, N. Y.; Gloversville, N. Y.; Rochester, N. Y.

Third District

Cumberland, Md.; Danville, Va.; Norfolk, Va.

Fourth District

Chattanooga, Tenn.; Atlanta, Ga.; Augusta, Ga.; Pascagoula, Miss.

Fifth District

Indianapolis, Ind.; Vincennes, Ind.; Columbus, Ohio; Dayton, Ohio; Lorrain, Ohio; Painesville, Ohio; Wheeling, W. Va.

Sixth District

Chicago, Ill.; Monmouth, Ill.; Rock Island, Ill.; Battle Creek, Mich.; Bessemer, Mich.; Lansing, Mich.; Racine, Wisc.; Milwaukee, Wisc.

Seventh District

Little Rock, Ark.; Cedar Rapids, Iowa; Des Moines, Iowa; Iowa City, Iowa; Waterloo, Iowa; Topeka, Kans.; Duluth, Minn.; Kansas City, Mo.; St. Louis, Mo.; Omaha, Nebr.; Bismark, N. D.

Eighth District

Phoenix, Ariz.; Denver, Colo.; Fort Collins, Colo.; Ponca City, Okla.; Dallas, Tex.; Rio Grande Valley, Tex.; Glendale, Calif.; Bakersfield, Calif.; Long Beach, Calif.; Boise, Idaho; Helena, Mont.; Eugene, Ore.; Portland, Ore.; Cheyenne, Wyo.

Where does your city stand?

What are you doing to put it on the Chapter Map?

Important Notice

The question of minimum requirements for chapter organization on a basis of population according to the following schedule has been submitted to the Governors for approval and announcement will be made in the near future.

Cities of 25,000 or less	population —	25	members
" " 25,000 to 50,000	" —	50	"
" " 50,000 to 100,000	" —	75	"
" " over 100,000	" —	100	"

Preliminaries to Chapter Organization

Any three or more members of, or applicants for membership in, the N.A.A. may send in an application to form a chapter charter member committee, together with membership dues for any signers not already members. Upon receipt and approval of this application National Headquarters will send to the designated Chairman or secretary of the Committee, full instructions for handling the enrollment, membership blanks, pamphlets, and other material useful in the work.

When the minimum number of members is obtained, the charter will be ordered engrossed and arrangements made to return half the membership fees as the local chapter fund.

APPLICATION TO FORM CHAPTER CHARTER MEMBER COMMITTEE

To The National Aeronautic Association of U. S. A.

We, the undersigned members of, or applicants for membership in, the Association, apply for the authority to form ourselves into a committee to promote a Chapter of the Association.

(Signatures)

If your town does not appear on the "Chapter Roll' or the "Near Chapter Roll" get two or more men to sign this application with you and send it in today.

Memorial Stone for American Aviators

Several inquiries have ben received at Headquarters as to whether subscriptions to the Memorial Stone for American Aviators who fought and died on the Chateau Thierry to Rheims Road in France, have been sufficient to meet the cost of erection. Although the number of subscriptions received has been very gratifying, a great many will have to be forthcoming before the fund is complete.

Have you forgotten yours?

Twin City Opens Air Port

July 10 marked the opening of another great airport known as the Wold-Chamberlin Twin-City Air Port at Minneapolis.

This field was dedicated to the memory of Lieut. Ernest Wold, First Aero Squadron, U. S. Army and Cyrus A. Chamberlin, Sergeant-Pilot, Lafayette Escadrille, French Air Service, favorite sons of the Twin Cities who were killed on the battle line, and were cited by the French and American governments.

The Aero Club of Minneapolis, the St. Paul Association, the Minneapolis Civic and Commerce Association, and 76 other civic organizations of the Twin Cities joined to make this a big event in Mid-Western aviation history.

Minneapolis has a large membership in the N.A.A. and we hope the date is not far distant when a charter will be presented to a fine chapter there. No other Aero Club of the country seems more permeated with the spirit that animates the N.A.A. than the Minneapolis Club.

Over 200 leading business men and Air Reserve officers attended the Club's annual dinner June 19, and adopted a program for making the Twin Cities an air port of national importance, and for bringing the Pulitzer Races there in 1925.

Aero Exhibition at Gothenburg

Several members have signified their intention of attending the International Aero Congress at Gothenburg which takes place July 20-Aug. 12, 1923 during which the annual meeting of the F.A.I. will be held, and at which the N.A.A. will be represented by Dr. J. J. Ide, Maj. Carlyle Wash, Sidney B. Veit and Dr. A. L. Hipwell, members of the Foreign Relations Committee.

The official program has just been received at National Headquarters and copies will be furnished upon request.

Headquarters received July 12 application to form a chapter in Honolulu, with Governor Farrington's signature as chairman of the committee.

Maryland Air Men Establish Record

Pilots in the Maryland State National Guard Unit have just completed a remarkable record in efficiency by having flown 130,000 miles from their Airdrome, Logan Field, Baltimore, Md., since June 29, 1921, without a crash or a casualty.

The Association extends its congratulations to Maj. P. E. Burwell (member of the N.A.A.) Commanding Officer of the Maryland National Guard Air Unit as well as to the members of this Squadron for their achievement. This is another demonstration of what proper control and regulation can do for safety in aviation.

Air Chief Wins Wings

The Association extends its congratulations to Maj. Gen. Mason M. Patrick, Chief of Air Service, on the occasion of his qualifying as an Army Pilot. General Patrick is the first officer of his rank who has ever learned to fly, having completed the regular army qualification tests at Bolling Field recently.

Application for Pilot's Certificate

An application for pilot's certificate has just been received from Rudolph Simacek of the Czechoslovak Aero Club of Prague; who has been sent to the United States for the purpose of studying the more advanced stages of the science in this country.

IN MEMORIAM

J. H. Blackwood
1858 Park Road
Washington, D. C.
July 5, 1923

AIRPORTS AND AIRWAYS

This Department is concerned with all civil flying activities such as the establishment of airports, the marking of airways, warnings to airmen regarding obstructions, experiences gathered on flying routes and landing fields, the work of commercial aviation companies and private fliers, the formation of new air transport enterprises, personal paragraphs of general interest, etc.

Communications to this effect, addressed "Airways Editor, Aviation, 225 Fourth Ave., New York City", should be brief, accurate and to the point. They should deal with facts, not with theories or speculations. While American civil flying activities will naturally be given prominence, communications will also be welcomed from Canada, Mexico and other parts of the Western Hemisphere. EDITOR.

Air Mail Performance 96.73 Per Cent

The Air Mail Service operation for the fiscal year 1922-1923 proves that airplanes are eligible to enter the famous classification, time, tide and railroad trains.

Air Mail Service performance for 1922-1923 was 96.73 per cent perfect. This figure was attained on a year's scheduled flying that totalled 1,589,389 miles shuttling back and forth over the continent of North America between New York and San Francisco. The performance record fulfilled the hope of the Air Mail Service for improvement on last year's record which was 95.52 per cent.

Following are the monthly percentage performance figures for the fiscal year ending June 30, 1923, which have been compiled by the Post Office Department: 1922; July, 99.83 per cent; August, 100 per cent; September, 99.59 per cent; October, 98.8 per cent; November, 95.2 per cent; December, 91.53 per cent; 1923; January, 92.77 per cent; February, 92.81 per cent; March, 94.80 per cent; April, 95.88 per cent; May, 99.08 per cent; June, 99.21 per cent.

Performance figures of the Air Mail Service are based on the number of miles traveled with mail against the number of miles scheduled. The importance of the record set up for 1922-1923 is further increased by the fact that air mail pilots are instructed to take no chances. Behind the achievement are two factors which made it possible; the first is the corps of pilots which include many of the most experienced fliers in the United States, and second is the strict system of plane inspection.

The figures for performance in previous years of the Air Mail Service record the steady improvement. They are as follows: 1918, 94.09 per cent; 1919, 91.35 per cent; 1920, 78.04 per cent; 1921, 92.84 per cent; 1922, 95.52 per cent.

Flying in the Northwest

Ten students, the largest successful flying class ever put through in the Northwest, have completed the course of aeronautics under the instruction of Tex Rankin, chief pilot of the Rankin Flying School at Walla Walla, Wash. Since the middle of March, a total number of 985 flights have been made, 82 of these entirely unaccompanied.

All of Rankin's ten students made their first flights alone after less than eight hours instruction in the air, the average being five hours. The course was completed by the class without any breakage or accident, not a single bad landing being made in nearly a thousand flights.

Ages of the students are from 16 to 45 years. The ten students who have completed the course are John Langdon, Jr., Warren Langdon, Walla Walla; C. B. Harris, Milton, Ore.; D. F. Jokisch, Boise, Ida.; E. A. Larson, Spokane; Art Walters, John Shaughnessey, Myrl Cochran, A. H. Harding and Harold Richmond, all of Walla Walla.

Besides being the largest successful flying class ever graduated in the northwest, the class is the first in the history of northwest aviation with more than 60 per cent of the members able to fly alone. Every one of the students has been up in the air alone.

Commenting on the aeronautical situation in the Northwest, Mr. Rankin said:

"In the northeast corner of the fort grounds just west of the O. W. station, lies one of the most wonderful natural airports ever seen. It is now sown to wheat. All that stands between Walla Walla's future in the field of aeronautics is the securing of this field.

"There has been more interest aroused in Walla Walla in flying than ever before and judging from reports from all over the nation, it is safe to say that 1923 will be the greatest year in the history of aviation."

New Vought Spotting Plane

Delivery was made to the Navy on July 13 by the Chance Vought Corp. of Long Island City, N. Y., of the second type UO1 two-seater spotting plane on a contract for a number of this type plane. The plane was set up at a seaplane hangar at Port Washington, L. I., under rush orders for its delivery by air to the scout cruiser Richmond, at Tottenville, Staten Island. The Richmond was scheduled to sail immediately for European waters, and the new plane was to be one of its complement of two seaplanes.

Lieut. H. B. Sallada, senior flight officer, detailed to the Richmond, piloted the new UO1 on its first flight.

The UO1 as a seaplane has a central pontoon and wing floats which are interchangeable with conventional Vought wheel chassis. It is powered with the 9 cyl. Lawrance T1 engine and is the latest airplane designed and developed by the Chance Vought Corp. for the naval air force for use on all catapult equipped cruisers and battleships.

Port Washington Activities

Among the commercial fliers operating in the vicinity of New York three well-known pilots with long experience in the operation of flying boats are still going strong. These men are R. T. Bellchambers, Harry Rogers and Windsol Cushing. They are operating two Curtiss Seagulls with 150 hp. C6 engines with headquarters at the Curtiss Hangar, Port Washington, Long Island. Passenger flights are conducted from Port Washington and the Westchester Biltmore on the opposite side of Long Island Sound. Several pupils are taking flying instruction under these pilots, and they report that their passenger flying is bringing in fair returns despite some cut rate competition.

Canadian Airports

Airharbor License No. 16, issued Feb. 6, 1920, to the Laurentide Co. at Grand 'Mere, P. Q., for a commercial seaplane station of over 800 yd. at Lac-a-la-Tortue, P. Q., has been cancelled by the Canadian Air Force.

A license for the same airport was issued to the Laurentide Air Service, Lake of the Woods Bldg., Montreal, P. Q.

Chicago Activities

Richard Boettcher, who has been flying for several months from Ashburn Field, will shortly transfer his Laird "Swallow" to Nimmo Black's Field in Uptown Chicago. John Miller, of the Edgewater Beach Air Service, will also bring his Curtiss JN to Black's Field. Miller has just returned from a flying trip to his home town in Nebraska.

Planes Rush Fight Pictures to New York

Commercial air transport received a great boost in connection with the Dempsey-Gibbons prize fight held Wednesday, July 4, at Shelby, Mont., when several news and photographic agencies used airplanes for carrying photographs and motion pictures of the fight to Chicago and New York.

The first pictures of the Dempsey-Gibbons fight, the property of the Wide World Photos Service, arrived in New York Friday when a Curtiss Oriole plane, piloted by W. L. Smith, finished the last lap of the trip from Shelby, arriving at the Curtiss Field in Mineola, L. I., at 3.28 p. m., approximately forty-three hours after the first plane had taken off from the scene of the fight. Smith left Chicago at 7.26 in the morning and flew the latter part of the journey under most unfavorable conditions.

Dallas M. Speer flew the first part of the trip from Shelby. He left in his Curtiss plane Wednesday afternoon at 5.30 Mountain time, 8.30 our time, and made Williston, N. D., where he was brought down because of engine trouble. Here the plates were loaded aboard a special train and taken to Norfolk, N. D., where a second plane resumed the journey.

Chicago was the destination of the second plane, but a terrific storm forced a landing at Janesville, Wis., 100 miles north of Chicago. The plates were again put aboard a train and arrived in Chicago early the following morning.

They were rushed to waiting planes and a start was made east at 7.26 a. m. Smith brought his plane to earth at 3.28, when the plates were put in fast cars for the last lap to the city.

The second plane that left Chicago was a precaution against mishap. It carried a duplicate set of the fight plates.

Pathé motion pictures of the fight were shown in New York Friday night, fifty-two hours after the battle at Shelby was over. The films were obtained by camera men who disguised themselves as peanut venders, taking the pictures with pocket-size cameras.

The films were brought East in a Curtiss airplane. It landed at Curtiss Field, Mineola, L. I. Here it was met by special agents of the Department of Justice, who escorted the party to New York, where the films were developed and rushed to the theater for their first showing.

Department of Justice officials said those directly involved in interstate transportation of the movies would be prosecuted. Others who had anything to do with sending the pictures across State lines could be reached under a general conspiracy charge, they said.

The *New York Times* commented editorially on this successful enterprise in the following terms:

"Airplanes, flown by night as well as by day, waiting express trains and racing automobiles were used to present to readers of the newspapers every feature of the battle of gladiators that told the story of their skill and strategy. All the large cities east of Chicago were served as well as New York by this undertaking of *The Times*, which established a precedent in modern journalism that will become famous. Millions of people who could not afford to go to Montana saw in clean-cut and telling pictures incidents in the spectacle at Shelby that were not seen to such advantage by many of the people in the arena.

"To get these pictures to New York a distance of 2,040 miles, the second day after the battle, involved far greater risks than the boxers themselves faced. The last chapter in the story of Shelby was as sensational in a news sense as anything previously recorded. The aviators carrying the precious plates buffeted storms that swayed their planes perilously and sometimes compelled landings. The night flying was particularly hazardous. If the scheme had not been worked out to meet every emergency, there would have been failure. When a plane had to come down there was a motor truck ready to make a dash for an express train, and at the end of its run an airplane was waiting to speed the plates to their destination. From Chicago to Mineola via Cleveland two highpowered airplanes driven by experienced aviators made the 790 miles at the rate of over ninety miles an hour, in spite of electrical storms and heavy rainfall. The Shelby photographers must not be left out of the picture. They shared the triumph of the aviators."

French Air Lines

The French air lines now in operation, which are shown in the accompanying sketch map, are as follows:

1. Paris-London. Operated by the Air-Union. Twice daily except Sundays.

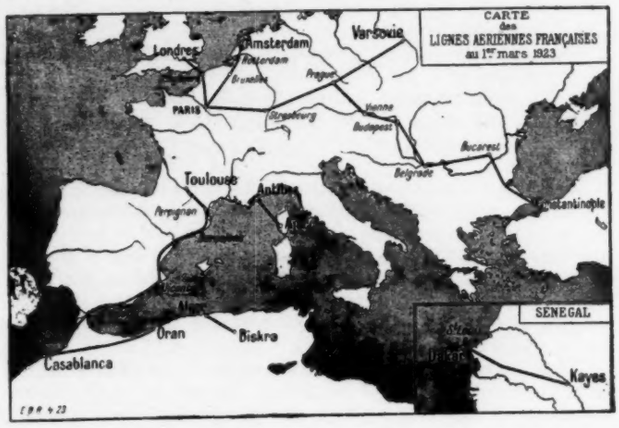
2. Paris-Brussels-Rotterdam-Amsterdam. Operated by the Air Union. Daily except Sundays.

3. Paris-Strasbourg-Prague-Warsaw. Operated by the Franco-Rumanian Air Transport Co. Daily except Sundays.

4. Paris - Strasbourg - Prague - Vienna - Budapest - Belgrade - Bucharest - Constantinople. Operated by the Franco-Rumanian Air Transport Co. Daily to Budapest; from their bi-weekly.

5. Antibes-Ajaccio. Operated by the Aéronavale Co. (An extension from Ajaccio to Cagliari and Tunis was to have been inaugurated July 1, 1923.)

6. Toulouse - Barcelona - Alicante - Malaga - Rabat - Casablanca. Operated by the Latécoère Air Lines. Daily. (This



Map of Europe showing French air lines in operation

service will be extended this summer to Cape Juby and from there by means of flying boats to the Canary Islands, and next year from Cape Juby to Dakar, French West Africa.)

7. Casablanca-Oran. Operated by the Latécoère Air Lines. Three-weekly. (To be extended to Algiers and Tunis.)

8. Algiers - Biskra. Operated by the Réseau Aerien Trans-africain. Three-weekly.

9. Dakar-Kayes, French West Africa. Operated by the Compagnie Atlantique de Navigation Aerienne. Bi-weekly. (To be extended to Bamako.)

An air service from Marseilles to Algiers via Barcelona and the Balearic Islands, and one from Oran to Alicante, are to be opened shortly.

Services which were run in 1922 and which have since been discontinued include the following: Paris-Havre; Paris-Lyons-Marseilles; Paris-Lausanne; Cayenne-St. Laurent-Inini, French Guiana.

Light Plane Enthusiasm in Texas

Reports from Southwest Texas indicate that experimenters are developing satisfactory models of the Dewoitine light plane from Curtiss and other parts. Recent articles in newspapers and aeronautical magazines have so stimulated interest in the "60 mile to the gallon" ship in this section that numerous successful models are expected to result.

Mr. Underwood, president of the Underwood Sales Company, formerly the Flying "U", of San Antonio, Tex., states that a sudden renewal of interest in his territory is resulting in heavily increased sales of both parts and complete ships. For the benefit of the increasing number who are contemplating a try at the "aerial flivver" his firm has instituted a special sale on those parts which are adaptable to the necessary remodeling. Complete ships have been recently delivered to the Citizen's Garage, Barbee Oliver, proprietor, Pleaston, Tex., also one to Don McCoy, rancher of Atascosa County, Tex., who plans to utilize the ship for locating lost cattle and rustlers, operating over thousands of acres of mesquite and grazing land.

U. S. ARMY AND NAVY AIR FORCES

U. S. ARMY AIR SERVICE

New Bombing Tests on Warships

Plans are now being worked out by the Army Air Service for another series of bombing tests against battleships, similar to those held off the Virginia Capes last year. The ships to be used this year are the Virginia and the New Jersey.

Aug. 15 has been tentatively chosen as the date. Unlike those of last year, the tests will be conducted entirely under Army auspices, the ships being turned over to the Air Service for its complete control.

Arrangements probably will be made to tow at least one of the ships, and probably both, in order that an answer may be given to those critics of aerial bombing who have contended that ships at rest might frequently be hit by aviators dropping bombs, but that hits with ships in motion would be rare.

It is planned also to demonstrate the effectiveness of gas in connection with aerial bombing. Extensive use is expected to be made of tear gas bombs, which would allow every aperture of the ships to be permeated with the non-poisonous fumes, and it is possible that men will be placed on the ships when some of these tests are made. By using bombs of slight weight, men would be able to observe the penetrating effect of the gas without danger.

Though the gas mask has been perfected to such a degree that many soldiers would be willing masked to expose themselves to poisonous gas, it is thought public opinion would not countenance such tests. It is possible the tests will be made with rats or other animals on the ships.

Tests will be made of the most modern bombs thus far developed. Air Service officers are particularly eager to test the efficacy of the 4,000 lb. bomb, said to be the largest ever developed by any nation, and made by the Aircraft Armament Division of the Ordnance Department.

This 4000 lb. demolition bomb is of much the same design as the 2000 lb. bomb used so effectively against the ex-German battleship Oestfriesland, destroyed last year in aviation tests. The bomb actually weighs about 4300 lb., complete with nose and tail fuses, loaded with approximately 2000 lb. of TNT.

The bomb, when dropped in a recent test, was fitted with time fuses and fell in a firm sandy soil from 4000 ft. altitude. The fuses functioned perfectly, delaying the detonation of the charge until the bomb was well buried, and the explosion threw a dense cloud of earth to a height of over 1000 ft. The crater averaged 64 ft. diameter with a depth of 19 ft. below the original level and a rim about 5 ft. high. The volume displaced was over 1000 cubic yards.

Motion Pictures of Night Flying

The Anti-Aircraft Regiment from Fort Totten, N. Y., and the Air Service at Mitchel Field recently cooperated in making a series of motion pictures of night flying. The plane was illuminated by four large searchlights and photographed from the ground. Advice was received from Fort Totten to the effect that satisfactory photographic results were obtained.

About a week later the Anti-Aircraft searchlight batteries returned to Mitchel Field and conducted a series of searchlight problems from 9.30 to 10.30 p. m., when the rising of the moon made it necessary to discontinue the problem. During the first section of the problem the airplane was flown at an altitude of 3000 ft. One of the four searchlights was set at each corner of the field and each secured practice in tracking. The airplane left its navigation lights on until the battery picked up the plane, when the lights on the plane were turned out and the searchlights secured actual practice in following. The results were fairly satisfactory within two or three miles of the searchlights' positions at an altitude of 3000 ft., and the plane was often illuminated sufficiently to have permitted anti-aircraft firing, but at the altitudes of 5000 ft. and over or at distances of greater than two or three miles from the airdrome, the searchlights were absolutely unable to illuminate the airplane.

Tests of Bullet Proof Glass

Officers of the Air Service are greatly interested in the recent tests of bullet proof glass for use in airplanes conducted at Mc Cook Field. With the perfection of this glass for use in wind shields, observation ports and windows in the bottom of the fuselage, military fliers see added safety for war-time pilots and observers.

(c) International Newsreel

Close-up view of the nozzle used for refueling planes in flight at San Diego

Reports of the recent tests state that specimens of the new glass 1½ in thick were not shattered or even cracked when struck by armor piercing 30 cal. ammunition fired at a range of 175 ft. at a velocity of 1500 ft. per second. The bullet in this instance bored its way into the glass for about ¼ in. and was then deflected at right angles. Some aerial war craft have their observation ports protected to a certain extent by revolving armored fans which permit the fliers to look out, but which deflect bullets. The new glass will be far more efficient, experts point out, if it is perfected.

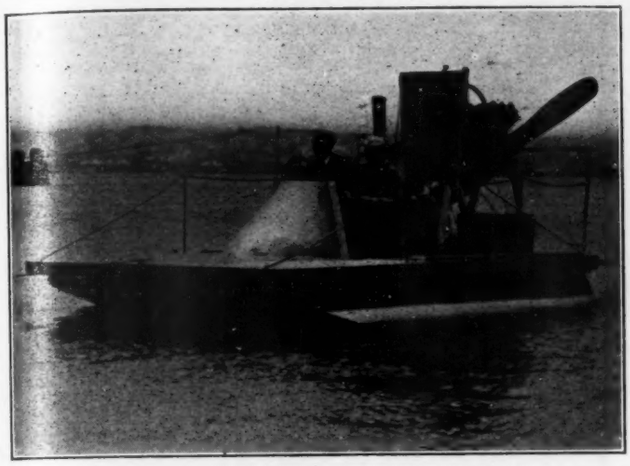
New Safety Valve for Airships

A. G. Maranville, a representative of the Aeronautical Department of the B. F. Goodrich Tire and Rubber Co., of Akron, Ohio, recently visited Scott Field, Ill., for the purpose of demonstrating the new Goodrich safety valve for airships. This device is 28 in. in diameter and has a gas exhausting capacity of 11,000 cu. ft. per minute. It uses the same gaskets and other fixings as the ordinary valve, but it has twice as large an opening and weighs 28 lb. The new valve is for larger ships than there are at present at Scott Field, but the Goodrich firm are constructing one of 18 in. diameter for use in non-rigid ships.

New Rescue Sea Sled

A "crash boat" or sea sled drawing but 8 in. of water built of salvaged materials by the men of the Naval Air Station, San Diego, Calif., has solved the problem of reaching disabled planes in shoal water. Mud flats covered with but a few inches of water comprise much of the bay around the Naval Air Station. The problem of reaching disabled planes on these flats has been a big one, as the speed boats usually used for giving assistance draw about three feet of water.

The sea sled is made of two R6L seaplane pontoons, covered with a plank floor 10 ft. wide and 15 ft. long. A Curtiss



Official Photo U. S. Navy

Rescue sea sled made at the naval air station, San Diego, from parts of an R6L seaplane

OXX6 100 hp. engine with an eight foot pusher propeller drives the boat. It has a crew of two men, a coxswain and a pharmacist's mate, carrying with them complete kits for medical and wrecking work. It has a capacity of six men and a speed of 29 m.p.h.

Marine Flying Field, Quantico

Five Vought planes from the Marine Flying Field, Quantico, Va. escorted General Gouraud of the French Army, on board the U.S.S. Mayflower on the occasion of his visit to Quantico on July 6. The General inspected the station and showed great interest in the flyng activities.

An aerial mosaic photographic map of the Shenandoah Valley has been made by Capt. A. H. Page, U.S.M.C., of the Marine Flying Field at Quantico, Va. Photographs for a map of the roads to and from Lexington, Va. to Quantico were also taken. These mosaic maps will be used for maneuveres by the Marine "East Coast Expeditionary Force" next fall. The pictures were taken by a T1 camera mounted in a DH4B.

Planes on Cruiser Richmond

When the scout cruiser Richmond visits Europe on her cruise this summer, Naval Aviation will be present on her decks in the shape of two Vought UO1 seaplanes mounted on catapults, fore and aft. These are the first of this type of plane to go into general service. It is hoped to make this equipment standard on all the scout cruisers. A Naval Aviation detail commanded by Lieut. H. B. Sallada is on board to operate and maintain the planes and catapaults.

Navy Planes Exhibited at Los Angeles

Two DT2 land planes made a flight from the Naval Air Station, San Diego, Calif., to Rogers Airport, Los Angeles, to take part in an aviation display at that field, during the last week in June. The planes remained there over the week end, the crew explaining to visitors the uses of the planes in Naval Warfare. The planes were from the Aircraft Squadrons, Battle Fleet.

Cruise of U.S.S. Langley

On Friday, July 20, the U.S.S. Langley, the only aircraft carrier in the Navy, left Hampton Roads for a series of visits to cities on the North Atlantic Coast. She will first spend a week at New York City, where flying operations will be carried on in North River. The public will doubtlessly be much interested in watching the aviation activities of this unique craft. After leaving New York the tentative schedule is as follows:

leave New York	July 30.
arrive Newport, R. I.	July 31.
leave Newport, R. I.	Aug. 3.
arrive Bar Harbor, Me.	Aug. 4.
leave Bar Harbor, Me.	Aug. 8.
arrive Portland, Me.	Aug. 8.
leave Portland, Me.	Aug. 13.
arrive Boston, Mass.	Aug. 13.
leave Boston, Mass.	Aug. 19.
arrive Portsmouth, N. H.	Aug. 19.
leave Portsmouth, N. H.	Aug. 24.
arrive Gloucester, Mass.	Aug. 24.
leave Gloucester, Mass.	Sept. 1.
arrive Hampton Roads, Va.	Sept. 12.

Naval Planes off to Newport

The Naval aviation divisions of twenty-two planes under command of Capt. W. R. Gherardi, U.S.N. which reached New York on July 3 from the naval air station Hampton Roads, Va., left their anchorage at 156th Street on the Hudson river at 9 a.m. on July 18 and flew to Newport, R. I., where they arrived at 10:30 a. m.

The planes left in flights of three, going up the river as far as Dyckman Street against a strong head wind, to get their altitude and then turning and coming down the river in formation.

There was a deep haze over the Hudson when the fliers left and because of the wind blowing down the river, the usual practice of taxiing down the river to get a start was departed from. The deep drone of the motors as the large fleet returned flying at an altitude of several hundred feet attracted considerable attention along the waterfront.

The motor ship Wright also left her anchorage off 158th Street to proceed to Newport.

Pensacola Flying Time

During the week ending July 7 the Naval Air Station, Pensacola, Fla. reported 777 hr. 35 min. flying time. This is the longest flying time reported by that station, the largest air station in the Naval Service, during the past two years. Considering that there were only four working days during that week it meant the remarkable daily time in the air of the planes on the station of 194 hr.

COMING AERONAUTICAL EVENTS

DOMESTIC

Oct. 1-3 — National Airplane Races, St. Louis, Mo.
Late Fall — Curtiss Marine Flying Trophy Race

FOREIGN

July 20-Aug. 12 — International Aero Exhibition, Gothenburg, Sweden
Aug. 3-31 — Sailplane Meet, Rhoen, Germany
Aug. 5-26 — Sailplane Meet, Vauville, near Cherbourg, France
Sept. 23 — Gordon Bennett Balloon Race, Brussels, Belgium
Sept. 28 — Schneider Maritime Aviation Trophy Race, Cowes, Isle of Wight, England
Dec. 1 — Entries close for French Engine competition

Orders to Officers

Lieut. Comdr. DeWitte C. Ramsey, det. Aide on Staff, C in C. U. S. Fleet, to temp. duty, Naval Air Station, Pensacola.

Lieut. Robert L. Fuller, det. Aircraft Squadrons Battle Fleet to duty involving flying, Nav. Air St., Pensa.

Leut. Eric G. Hoylman, det. Naval Air Station, San Diego, to Naval Training Station, San Diego.

Lieut. (jg) Claude R. Clark, (S.C.) det. Nav. Air Sta. Hampton Roads, to temp. duty S.C. school of application.

Ens. Steadman Acker, to duty U.S.S. Idaho.

Mach. William J. Brennan, detached U.S.S. Sandpiper, to duty Third Naval District.

Lt. (jg) Earl R. Delong, detached U.S.S. Wright, to temp. duty Receiving Ship, Philadelphia.

Lt. Charles N. Liqued, detached Bureau of Aeronautics, to special course, M.I.T., Cambridge, Mass.

Lieut. (jg) James F. Warner, detached U.S.S. Wright to conn. f.o. U.S.S. Colorado and on board when commissioned:

Lieut. John M. Sheehan, detached, Air Squadrons Scouting Fleet, to Bureau of Aeronautics.

Ens. Melbourne N. Gilbert, at Supply Corps School of Application, to Naval Aircraft Factory, Navy Yard, Phi'a.

Lieut. William M. Fellers, detached, Bureau of Aeronautics to U.S.S. Richmond.

Lieut. Thomas E. Renaker, detached Aircraft Squadrons Scouting Fleet, to Receiving Ship, New York, N. Y.

Lieut. Ralph Wyman, detached Aircraft Squadrons Battle Fleet to U.S.S. Milwaukee.

Ens. Harold J. McNulty, detached Aircraft Squadrons Battle Fleet to U.S.S. Milwaukee.

Teaching Radio to Sleeping Students

Further reports from the Naval Air Station at Pensacola, Fla., on the success that has been attained in teaching radio code to student aviators in their sleep give interesting information on the progress of this novel and useful experiment. In fact it may be said that the experimental stage in the tria's has been past and the method has become standard, as a means of saving students from failure in the course.

When the test was started twelve students were unsatisfactory in their progress in radio code. After two nights during which radio code was sent to the students in their sleep only two of the students were unsatisfactory, and these two men had left before the experiment was finished, professing disbelief in it.

The procedure has been to have the students sleep on the tables in the radio room where the code is taught in the regular school periods. Operators send messages at varying speeds all night. The students concentrate on the messages that are sent through until they drop off to sleep. To quote a report on the subject:

"It is very interesting to watch the students during one of these night periods. If the operator intentionally and continually makes errors in sending the students will toss around most unusually in their sleep. If the sending stops or the rate of sending changes appreciably, it is sure to disturb them, and in most cases will arouse them. Even in the midst of their deepest slumbers, the call 'S.O.S.' at a different rate of speed will awaken them instantly."

It is planned to secure electrical sending machines which will send all night and do away with the necessity for an operator for future classes.

Ordnance Equipment on Planes

It has been decided that the practice of removing ordnance equipment from planes when it is not actually in use retards the development of aviation ordnance, since it removes the incentive to develop an installation that will stand up under actual operating conditions. Therefore the Commander, Aircraft Squadrons Battle Fleet, has issued an order on the subject that will remedy the condition. The following is from the order.

"It will therefore be the practice for all planes to carry their complete equipment except when some specific reason prevents. When some reason requires the removal of ordnance equipment, it shall be returned as soon as possible.

"Performance tests of planes should be conducted with offensive armament in place."

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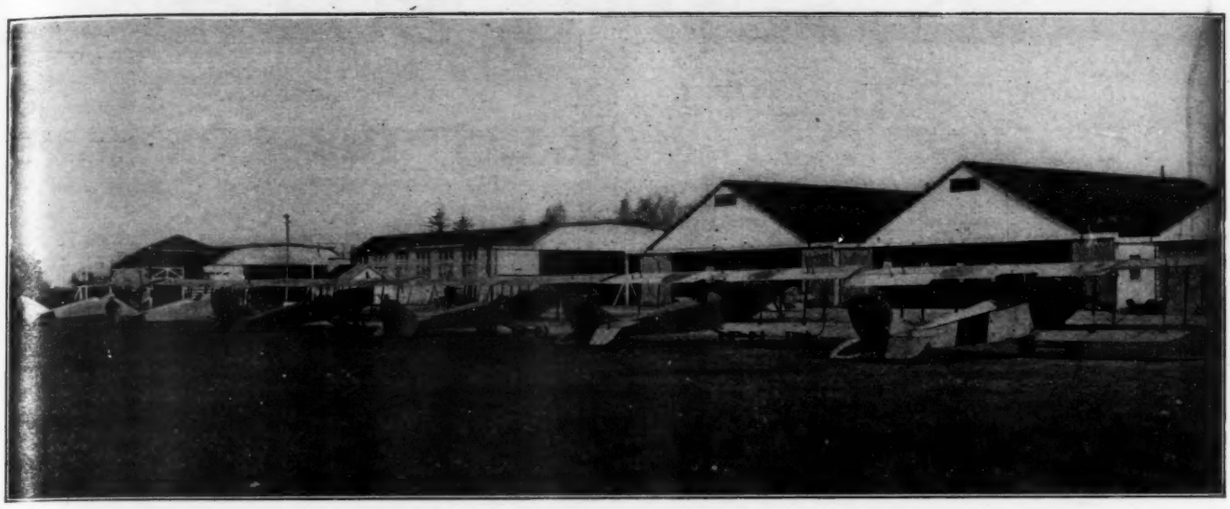

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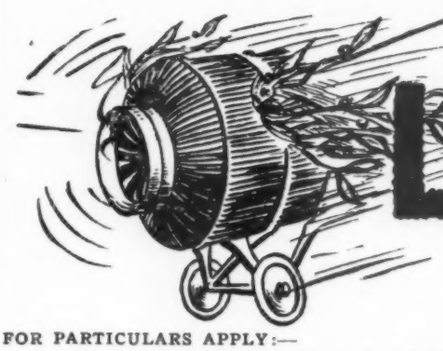

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